



(12) **United States Patent**
Surducan et al.

(10) **Patent No.:** US 7,034,769 B2
(45) **Date of Patent:** Apr. 25, 2006

(54) **MODIFIED PRINTED DIPOLE ANTENNAS FOR WIRELESS MULTI-BAND COMMUNICATION SYSTEMS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 85 days.

(21) Appl. No.: 10/718,568

(22) Filed: Nov. 24, 2003

(65) **Prior Publication Data**

US 2005/0110696 A1 May 26, 2005

(51) **Int. Cl.**

H01Q 9/16 (2006.01)

(52) **U.S. Cl.** 343/793; 343/795; 343/700 MS

(58) **Field of Classification Search** 343/793, 343/795, 792, 700 MS, 702, 829, 846

See application file for complete search history.

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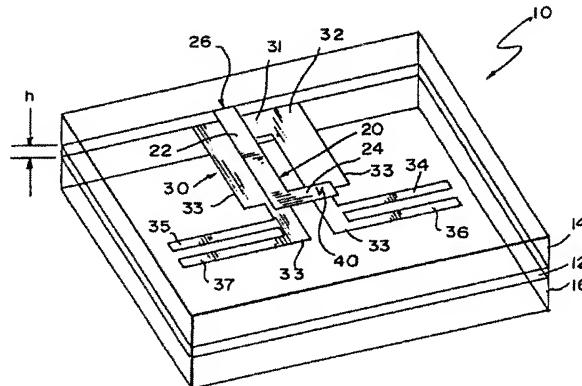
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(57) **ABSTRACT**

A dipole antenna for a wireless communication device, which includes a first conductive element superimposed on a portion of and separated from a second conductive element by a first dielectric layer. A first conductive via connects the first and second conductive elements through the first dielectric layer. The second conductive element is generally U-shaped. The second conductive element includes a plurality of spaced conductive strips extending transverse from adjacent ends of the legs of the U-shape. Each strip is dimensioned for a different center frequency λ_0 . The first conductive element may be L-shaped, and one of the legs of the L-shape being superimposed on one of the legs of the U-shape. The first conductive via connects the other leg of the U-shape to the other leg of the L-shape.

19 Claims, 15 Drawing Sheets



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